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shackles are available, they shall not be exceeded. If the manufacturers' recommendations are not available, table 5 of appendix II to this part shall apply.

(2) Screw pin shackles provided by the employer and used aloft, except in cargo hook assemblies, shall have their pins positively secured.

(j) *Hooks other than hand hooks.* (1) The manufacturer's recommended safe working loads for hooks shall not be exceeded. Hooks other than hand hooks shall be tested before initial use in accordance with the provisions of § 1919.31 (a), (c), and (d) of this chapter. *Exception:* Manufacturers' test certificates indicating performance to the criteria in § 1919.31 (a), (c) and (d) of this chapter shall be acceptable.

(2) Bent or sprung hooks shall be discarded.

(3) Teeth of case hooks shall be maintained in safe condition.

(4) Jaws of patent clamp-type plate hooks shall be maintained in condition to grip plates securely.

(5) Loads shall be applied to the throat of the hook only.

(k) *Pallets.* (1) Pallets shall be made and maintained to support and carry loads being handled safely. Fastenings of reusable pallets used for hoisting shall be bolts and nuts, drive screws (helically threaded nails), annular threaded nails or fastenings of equivalent holding strength.

(2) Reusable wing or lip-type pallets shall be hoisted by bar bridles or other suitable gear and shall have an overhanging wing or lip of at least three inches (7.6 cm). They shall not be hoisted by wire slings alone.

(3) Loaded pallets that do not meet the requirements of this paragraph shall be hoisted only after being placed on pallets meeting such requirements, or shall be handled by other means providing equivalent safety.

(4) Bridles for handling flush end or box-type pallets shall be designed to prevent disengagement from the pallet under load.

(5) Pallets shall be stacked or placed to prevent falling, collapsing or otherwise causing a hazard under standard operating conditions.

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(6) Disposable pallets intended only for one use shall not be reused for hoisting.

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§ 1918.63 Chutes, gravity conveyors and rollers.

(a) Chutes shall be of adequate length and strength to support the conditions of use, and shall be free of splinters and sharp edges.

(b) When necessary for the safety of employees, chutes shall be equipped with sideboards to afford protection from falling objects.

(c) When necessary for the safety of employees, provisions shall be made for stopping objects other than bulk commodities at the delivery end of the chute.

(d) Chutes and gravity conveyor roller sections shall be firmly placed and secured to prevent displacement, shifting, or falling.

(e) Gravity conveyors shall be of sufficient strength to support the weight of materials placed upon them safely. Conveyor rollers shall be installed in a way that prevents them from falling or jumping out of the frame.

(f) Frames shall be kept free of burrs and sharp edges.

§ 1918.64 Powered conveyors.

(a) *Emergency stop.* Readily accessible stop controls shall be provided for use in an emergency. Whenever the operation of any power conveyor requires personnel to work close to the conveyor, the conveyor controls shall not be left unattended while the conveyor is in operation.

(b) *Guarding.* All conveyor and trimmer drives that create a hazard shall be adequately guarded.

(c) *Approved for location.* Electric motors and controls on conveyors and trimmers used to handle grain and exposed to grain dust shall be of a type approved by a nationally recognized testing laboratory for use in Class II, Division I locations. (See § 1910.7 of this chapter.)

(d) *Grain trimmer control box.* Each grain trimmer shall have a control box on the weather deck close to the spout feeding the trimmer.

(e) *Grain trimmer power cable.* Power cables between the deck control box and the grain trimmer shall be used only in continuous lengths without splice or tap between connections.

(f) *Portable conveyors.* Portable conveyors shall be stable within their operating ranges. When used at variable fixed levels, the unit shall be secured at the operating level.

(g) *Delivery and braking.* When necessary for the safety of employees, provisions shall be made for braking objects at the delivery end of the conveyor.

(h) *Electric brakes.* Conveyors using electrically released brakes shall be constructed so that the brakes cannot be released until power is applied and the brakes are automatically engaged if the power fails or the operating control is returned to the "stop" position.

(i) *Starting powered conveyors.* Powered conveyors shall not be started until all employees are clear of the conveyor or have been warned that the conveyor is about to start up.

(j) *Loading and unloading.* The area around conveyor loading and unloading points shall be kept clear of obstructions during conveyor operations.

(k) *Lockout/tagout.* (1) Conveyors shall be stopped and their power sources locked out and tagged out during maintenance, repair, and servicing. If power is necessary for testing or for making minor adjustments, power shall only be supplied to the servicing operation.

(2) The starting device shall be locked out and tagged out in the stop position before an attempt is made to remove the cause of a jam or overload of the conveying medium.

(1) *Safe practices.* (1) Only designated persons shall operate, repair or service powered conveyors.

(2) The employer shall ensure that each employee stays off operating conveyors.

(3) Conveyors shall be operated only with all overload devices, guards and safety devices in place and operable.

§ 1918.65 Mechanically powered vehicles used aboard vessels.

(a) *Applicability.* This section applies to every type of mechanically powered

vehicle used for material or equipment handling aboard a vessel.

(b) *General.* (1) Modifications, such as adding counterweights that might affect the vehicle's capacity or safety, shall not be done without either the manufacturers' prior written approval or the written approval of a registered professional engineer experienced with the equipment, who has consulted with the manufacturer, if available. Capacity, operation and maintenance instruction plates, tags or decals shall be changed to conform to the equipment as modified.

(2) Rated capacities, with and without removable counterweights, shall not be exceeded. Rated capacities shall be marked on the vehicle and shall be visible to the operator. The vehicle weight, with and without a counterweight, shall be similarly marked.

(3) If loads are lifted by two or more trucks working in unison, the total weight shall not exceed the combined safe lifting capacity of all trucks.

(c) *Guards for fork lift trucks.* (1) Except as noted in paragraph (c)(5) of this section, fork lift trucks shall be equipped with overhead guards securely attached to the machines. The guard shall be of such design and construction as to protect the operator from boxes, cartons, packages, bagged material, and other similar items of cargo that might fall from the load being handled or from stowage.

(2) Overhead guards shall not obstruct the operator's view, and openings in the top of the guard shall not exceed six inches (15.24 cm) in one of the two directions, width or length. Larger openings are permitted if no opening allows the smallest unit of cargo being handled through the guard.

(3) Overhead guards shall be built so that failure of the vehicle's mast tilting mechanism will not displace the guard.

(4) Overhead guards shall be large enough to extend over the operator during all truck operations, including forward tilt.

(5) An overhead guard may be removed only when it would prevent a truck from entering a work space and only if the operator is not exposed to low overhead obstructions in the work space.